What is claimed is:

1. A valve comprising:

a valve body having a first end, a second end, an axis, and an outside surface extending between said first and second ends, said valve body defining an intake port surrounded by a seal seat at said first end, an exhaust port on said outside surface, a passageway connecting the intake port and the exhaust port, and a valve guide bore, said passageway comprising an intake portion communicating with said intake port and an exhaust portion communicating with said exhaust port and intersecting said intake portion at an angle of greater than 90°; and

a valve member comprising a valve stem and a seal coupled to the valve stem, said valve stem being slidably received in said valve guide bore and resiliently biased toward a closed position wherein said seal abuts said seal seat to block gas flow through said intake port and said valve stem protrudes from said valve body second end.

2. The valve of claim 1, comprising a spring and said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber,

wherein said spring is arranged in said spring chamber and engaged with said valve stem to bias said valve member toward said closed position.

3. The valve of claim 1, comprising a spring, a spring retainer radially extending from said valve stem and said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber,

wherein said spring is arranged in said spring chamber and engaged with said valve stem to bias said valve member toward said

closed position, said spring being maintained in compression between said spring retainer and said valve body.

4. The valve of claim 1, comprising:

a spring;

said valve stem defining a radial groove;

a spring retainer comprising a resilient member engaged in said valve stem radial groove;

and said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber extending between a spring chamber second end adjacent said valve body second end and a spring chamber first end, said spring chamber second end having a radially inward projecting lip defining a valve stem opening through which said valve stem protrudes, said valve stem opening having a third diameter smaller than said second diameter but greater than said first diameter,

wherein said spring is arranged in said spring chamber and engaged with said valve stem to bias said valve member toward said closed position, said spring being maintained in compression between said spring retainer and said valve body and said spring retainer resting against said lip when said valve member is in said closed position.

5. The valve of claim 1, wherein said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber extending between a spring chamber second end adjacent said valve body second end and a spring chamber first end, said spring chamber second end having a radially inward projecting lip defining a valve stem opening through which said valve stem protrudes, said valve stem opening having a third diameter smaller than said second diameter but greater than said

first diameter, said valve stem having a stem outside diameter and defining a radial groove, said valve comprising:

a cylindrical helical spring having a spring inside diameter and a spring outside diameter, said spring inside diameter being greater than said stem outside diameter and said spring outside diameter being smaller than said third diameter;

a resilient member engageable in said valve stem radial groove;

wherein said spring is inserted into said spring chamber through said valve stem opening, said resilient member is deformed to pass through said valve stem opening after insertion of said spring, said valve stem is inserted into said valve body first end to pass through said valve guide bore first portion and enter said spring chamber from said first end, said valve stem passing through said spring inside diameter and said resilient member to project through said valve stem opening, said resilient member grasping said valve stem at said radial groove,

whereby said spring is captured between said spring chamber first end and said resilient member to bias said valve member toward said closed position

6. The valve of claim 1, wherein said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber extending between a spring chamber second end adjacent said valve body second end and a spring chamber first end and having a cylindrical inside surface, said spring chamber second end defining a valve stem opening through which said valve stem protrudes, said valve stem having a stem outside diameter and defining a radial groove, said valve comprising:

a spring;

a resilient O-ring having an inside diameter and an outside diameter, said O-ring inside diameter being smaller than said stem outside diameter;

wherein O-ring is engaged with said valve stem at said radial groove, said spring is captured between said O-ring and said spring chamber first end and said O-ring outside diameter is slidingly, sealingly engaged against the spring chamber cylindrical inside surface.

7. The valve of claim 1, wherein an inside surface of said passageway at the intersection of said intake and exhaust portions is at least partially defined by a concave, curved surface.

8. The valve of claim 1, wherein said intake portion comprises a substantially circular axial bore, said exhaust portion comprises a non-circular bore and an inside surface of said passageway at the intersection of said intake and exhaust portions is at least partially defined by a portion of a sphere.

9. The valve of claim 1, wherein said angle of greater than 90° is approximately 120°.

10. The valve of claim 1, wherein said seal comprises a convex outward surface and an inner transition surface comprises a concave circumferential surface extending between a peripheral lip of the seal and the valve stem, said circumferential surface at least partially defined by a first radius greater than a second radius of said valve stem.

11. The valve of claim 10, wherein said peripheral lip comprises a convex circumferential surface extending between said outward surface and said inner transition surface, said convex circumferential surface comprising a radiused surface.

12. A method of assembling a valve comprising:

a valve comprising a valve stem and a seal connected to the stem, said stem having a stem outside diameter and defining a radial groove;

a valve body defining an intake port, an exhaust port, a gas flow passage extending between the intake and exhaust ports and a valve guide bore comprising a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber extending between a spring chamber second end adjacent said valve body second end and a spring chamber first end, said spring chamber second end having a radially inward projecting lip defining a valve stem opening through which said valve stem protrudes, said valve stem opening having a third diameter smaller than said second diameter but greater than said first diameter;

a cylindrical helical spring having a spring inside diameter and a spring outside diameter, said spring inside diameter being greater than said stem outside diameter and said spring outside diameter being smaller than said third diameter;

a resilient member engageable over said valve stem in said valve stem radial groove,

wherein said method of assembly comprises:

inserting said spring into said spring chamber through said valve stem opening;

inserting said resilient member through said valve stem opening after insertion of said spring;

inserting said valve stem into said valve body first end to pass through said valve guide bore first portion and enter said spring chamber from said spring chamber first end, said valve stem passing through said spring inside diameter and said resilient member to project through said valve stem opening, said resilient member grasping said valve stem at said radial groove,

whereby said spring is captured between said spring chamber first end and said resilient member to bias said valve toward said closed position.

13. The method of assembly of claim 12, comprising:

selecting as said resilient member an O-ring having an inside diameter smaller than said stem outside diameter and a radial thickness that will result in an installed outside diameter for the resilient member that will provide a sliding, substantially sealed relationship between the resilient member and an inside surface of the spring chamber.

14. A gas release valve comprising:

a valve body having an intake end, an actuation end, an axis, and a generally cylindrical outside surface extending at least part of an axial distance between said intake and actuation ends, said valve body defining an axial, generally circular intake port surrounded by a seal seat at said intake end, an exhaust port through said generally cylindrical outside surface, a gas flow passage connecting the intake port and the exhaust port, and a valve guide bore, said gas flow passage comprising an intake portion communicating with said intake port and an exhaust portion communicating with said exhaust port, said intake and exhaust portions intersecting at an angle θ of greater than 90°;

a valve member comprising a valve stem and a seal coupled to the valve stem, said valve stem being slidably received in said valve guide bore and resiliently biased toward a closed position wherein said seal abuts said seal seat to block gas flow through said intake port and said valve stem protrudes from said valve body second end.

15. The gas release valve of claim 14, comprising a spring and said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second

diameter greater than said first diameter, said second portion defining a spring chamber internal to said valve body,

wherein said spring is arranged in said spring chamber and engaged with said valve stem to bias said valve toward said closed position.

16. The gas release valve of claim 14, wherein said exhaust port and said exhaust portion are non-circular.

17. The gas release valve of claim 14, comprising a spring and an elastic o-ring, wherein said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber internal to said valve body and said valve stem defines a radial groove,

wherein said spring is arranged in said spring chamber, said elastic o-ring is engaged with said valve stem at said radial groove and said spring is compressed between said valve body and said elastic o-ring to bias said valve toward said closed position.

18. The gas release valve of claim 14, wherein said angle θ is approximately 120°.

19. The gas release valve of claim 14, comprising

a spring;

said valve stem defining a radial groove;

a spring retainer comprising an elastic member engaged in said valve stem radial groove;

and said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber extending between a spring chamber

second end adjacent said valve body actuation end and a spring chamber first end adjacent said valve guide bore first portion, said spring chamber second end having a radially inward projecting lip defining a valve stem opening through which said valve stem protrudes from the actuation end of said valve body, said valve stem opening having a third diameter smaller than said second diameter and greater than said first diameter,

wherein said spring is arranged in said spring chamber and maintained in compression between said spring retainer and said valve body to bias said valve member toward said closed position.

20. The valve of claim 14, wherein said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber extending between a spring chamber second end adjacent said valve body actuation end and a spring chamber first end adjacent said valve guide bore first portion, said spring chamber second end having a radially inward projecting lip defining a valve stem opening through which said valve stem protrudes from the valve body actuation end, said valve stem opening having a third diameter smaller than said second diameter but greater than said first diameter, said valve stem having a stem outside diameter and defining a radial groove, said valve comprising:

a cylindrical helical spring having a spring inside diameter and a spring outside diameter, said spring inside diameter being greater than said stem outside diameter and said spring outside diameter being smaller than said third diameter;

a resilient member engageable in said valve stem radial groove;

wherein said spring is inserted into said spring chamber through said valve stem opening, said resilient member is deformed to pass through said valve stem opening after insertion of said spring, said valve stem is inserted into said valve body first end to pass through said valve guide bore first portion and enter said spring chamber from said first

end, said valve stem passing through said spring inside diameter and said resilient member to project through said valve stem opening, said resilient member grasping said valve stem at said radial groove,

whereby said spring is captured between said spring chamber first end and said resilient member to bias said valve member toward said closed position.

21. The gas release valve of claim 14, wherein said valve guide bore comprises a first portion having a first diameter selected to closely receive said valve stem and a second portion having a second diameter greater than said first diameter, said second portion defining a spring chamber extending between a spring chamber second end adjacent said valve body actuation end and a spring chamber first end adjacent said valve guide bore first portion, said first portion being axially spaced from both the intake end and the actuation end of said valve body.